

#### What is RMOTC?

The Rocky Mountain Oilfield Testing Center (RMOTC), is an operating oil field focusing on environmentally-balanced energy technologies

and alternatives, and is the premiere energy testing and demonstration field in the nation.



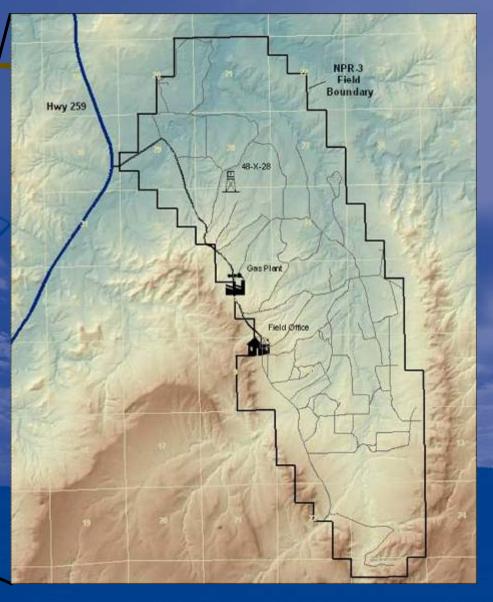




#### **Field Location**

- RMOTC is located at Teapot Dome Oilfield within the Naval Petroleum Reserve No. 3 (NPR-3)
- Town offices are located in Casper, WY









### **RMOTC Provides**

#### Operations and Testing Facilities include:

- Drilling & Service Rigs
- Administrative Services, Engineers,
   Scientists, & Support Staff
- Support Equipment
- Bio-Treatment Facilities
- Soil Remediation Facilities
- Field Laboratory
- Gas Processing Facilities
- Production Facilities
- Tanks & Pipelines
- Aquaculture & Hydroponic Greenhouse Facilities







## **Unique Location**

- Remote, federally-owned and secure site
- 10,000-acre operating oil field
- Full complement of onsite facilities and equipment
- Approximately 1350 well bores; 600+ active wells
- Nine producing reservoirs
- Depths from 250-7000 ft.
- Real world field testing

- Producing, non-producing, and new well drilling opportunities
- Industry experienced specialists
- Varied terrain & weather conditions





## RMOTC offers Testing Opportunities in:

- Exploration
- Environmental Technology
- Production Technology
- Drilling Technology
- Renewable Energy
- Energy Assurance





**Teapot Dome Oil Field History** 

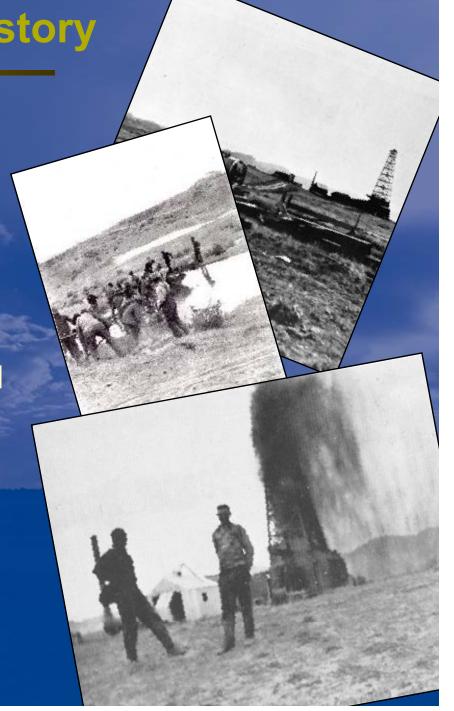
 Production began in the early 1900's

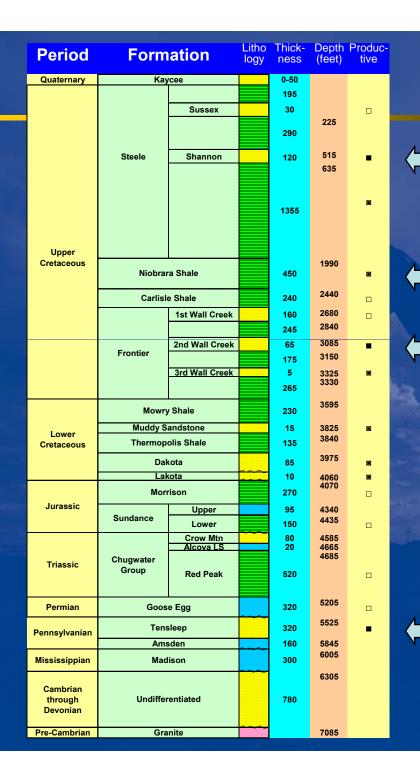
 By 1927 over 80 wells had been drilled.

 The field was shut down in 1927 and no wells were drilled until the 1950's.

 The field was opened to full production in the mid 1970's and has been producing oil and gas since.







# NPR-3 Reservoir Summary

- Nine oil-bearing intervals
- Four currently producing
  - Shannon depth 500'
  - Niobrara Shale 2000'
  - 2nd Wall Creek 3000'
  - Tensleep 5500'
- Granite Basement 7000'
- Range of rock composition & petrophysics
- Clastics and Carbonates



## **Reservoir Data**

Formation	Shannon	Shales	2 <sup>nd</sup> Wall Ck	Tensleep
OOIP MMBO	144	25	57	4
OGIP BCF	1.4	2.2	45.1	.01
Area, acres	3800	8640	3590	320
Ave Poro.	18 %	n/a	15 %	8 %
Ave Perm.	63 md	n/a	100 md	80 md
Thickness ft.	65	35	30	50
Pressure PSI	25-70	25-250	25-250	2350
Cum. Oil	11.5	4.1	10.3	1.8
Recovery %	8	16	18	45
Cum. Gas	.7	.9	45.1* (inj.)	0
Temp. °F	65	100	125	190
Oil Gravity	29-35	38-42	38	32





## RMOTC's Drilling Rig



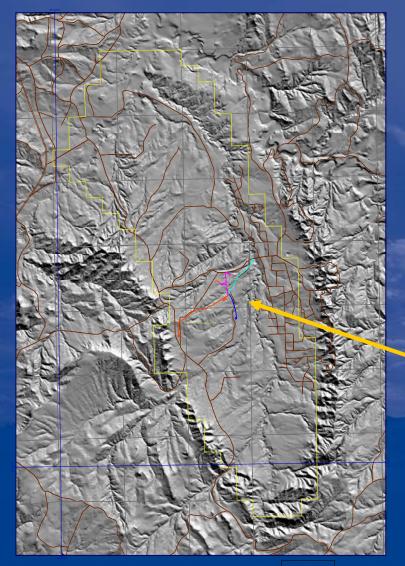
The Rocky
Mountain Oilfield
Testing Center has
expanded its
testing capabilities
with the new
RMOTC Rig No. 1,
built by Crown
Energy of Calgary,
Alberta, Canada.

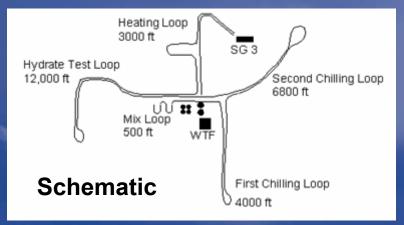
- 118 foot high telescoping mast
- 375,000 pounds
- Depths up to 8000 feet
- High-pressure capability to 8000 PSI while rotating
- 900 HP draw-works
- Two tandem reducedemissions engines

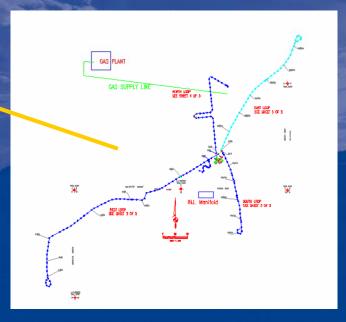




## Flow Assurance Test Loop





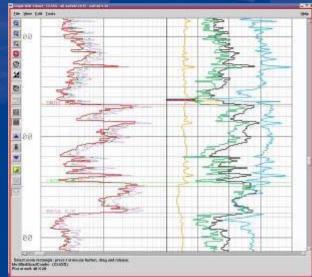


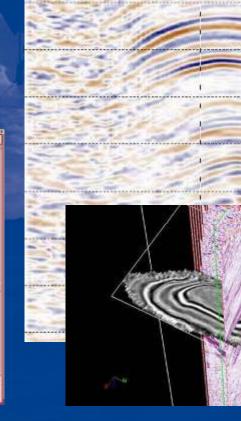




## RMOTC Has Comprehensive Surface and Subsurface Data to Support Test Projects

- 3D & 2D Seismic Data
- Production History
- Drilling & Tubulars
- Well Headers, Formation Tops
- Well Logs and Cores







#### **Workstations and Software**

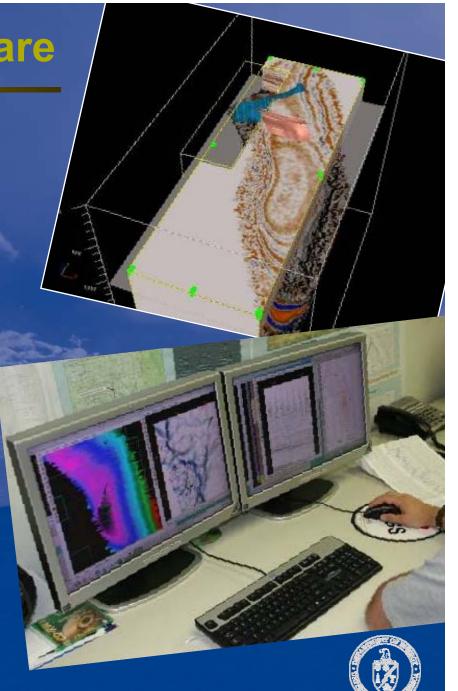
 Comprehensive suite of integrated interpretation tools from Landmark Graphics in G&G, production, drilling, and engineering software

Upgraded new hardware and IT infrastructure

IT staff support

ESRI ArcGIS for GIS capabilities

 Drilling rig instrumented for realtime data capture and access via the internet





## **Customer Operations Center**

